

ECOLOGY AND ENVIRONMENT INC.

DALLAS, TEXAS

MEMORANDUM

TO: Keith Bradley, EPA Region VI RPO

THRU: K.H. Malone Jr., Region VI FITOM *KH*

FROM: Larry Landry, FIT Chemist *L. Landry*

DATE: July 24, 1987

SUBJ: Preliminary HRS, ~~Sheppard Air Force Base~~, Wichita Falls, Texas,
(TX3571524161)
TDD# F06-8703-41

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INTRODUCTION

The FIT was tasked by the EPA to complete a preliminary HRS for the Sheppard Air Force Base, Wichita Falls, Texas. Sheppard Air Force Base is located four miles north of Wichita Falls, Texas and is bordered by agricultural lands on the north and east, a road with limited residential and commercial development on the south, and a major highway with commercial development on the west. As a result of the completion of the initial assessment study of the base, one former landfill and landfill area, 2 fire protection training areas and a waste pit area, were recommended for confirmation studies. The Phase II studies included geophysical surveys, the installation and sampling of nine ground water monitoring wells, coring and sampling of shallow soils at two of the four sites, and sampling and analysis of surface water from seven locations near the waste sites. Low levels of contaminants were detected in ground water near several sites. The four sites were Site 1, the landfill #3 and landfill area; Site 2, waste pit area; Site 3, fire training protection area (FPTA) #3 and Site 4, fire training protection area (FPTA) #1.

Results of the ground water samples in the waste pit and landfill No. 3 area showed an observed released of trichloroethylene, tetrachloroethylene, lead, chromium, and mercury into the ground water.

PRELIMINARY HRS DISCUSSION

The preliminary HRS score for the Sheppard Air Force Base is substantially below that required to qualify for the National Priority List (NPL). The low score can be attributed to the lack of ground water use in the area and the lack of surface water use in the area of the concern.

The FIT recommends that two points be clarified. The use of surface water

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within the area of concern should be specified for each surface water body. It is "generally" stated in the preliminary HRS.

A ground water well survey should be conducted in an attempt to score this route.

December 17, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: ~~Sheppard Air Force Base~~

LOCATION: Wichita Falls, Texas (Wichita County) Approx. Lat. 34° 00' 00"
and Long. 98° 30' 00"

RECEIVED

WICHITA FALLS

GROUND WATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum): Trichloroethylene, tetrachloroethylene, lead, chromium, and mercury were detected in monitoring well #4 and monitoring well #7 near the vicinity of landfill #3 and waste pits (Ref. 3, p. 4-19, 4-20, H-126, H-140 and H-143).

Rationale for attributing the contaminants to the facility: The contaminants mentioned above were detected in the monitoring wells located on Sheppard AFB in the vicinity of landfill #3 and waste pits (Ref. 3, p. 4-19). The landfill was operated from 1957 until 1972 and accepted base refuse, waste treatment sludge, and waste oils (Ref. 2, p. 4-22 and 4-23).

HRS value = 45

2. ROUTE CHARACTERISTICS

Depths to Aquifer of Concern

Name/description of aquifer(s) of concern: Ground water is available in shallow alluvium and terrace deposits which are the result of Red River deposition. The deposits are comprised of sand, silt, and gravels and typically are 60 feet in thickness (Ref. 2, p. 3-19, 3-20).

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern: The depth to ground water is typically less than 10'. However, in some areas of the base, the groundwater may be limited areally or seasonally (Ref. 2, p. 3-24 and 3-25).

Depth from the ground surface to the lowest point of waste disposal/storage: The deepest waste disposal/storage was 14' (Ref. 2, p. 4-22).

10' - 14' = -4'

HRS value = 3

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

27" (Ref. 2, p. 2, 3-1, 3-27).

Mean annual lake or seasonal evaporation (list months for seasonal):

64' (Ref. 2, p. 3-1).

Net precipitation (subtract the above figures):

27" - 64" = -37" (Ref. 2, p. 2, 3-1 and 3-27).

HRS value = 0

Permeability of Unsaturated Zone

Soil type in unsaturated zone: The soils are typically loam and combinations of sandy, silty, and clayey loam (Ref. 2, p. 3-3). Shale bedrock and overlying clay deposits are found in the immediate vicinity of the base, as recorded in boring logs from test wells (Ref. 2, p. 3-19).

Permeability associated with soil type:

10^{-5} to 10^{-7} (Ref. 1, p. 15 and Ref. 2, p. 3-5).

HRS value = 1

Physical State

Physical state of substances at time of disposal (or at present time for generated gases): General refuse, waste treatment sludge, and industrial waste oils were disposed at landfill #3 (Ref. 2, p. 4-21). The waste pits contained waste from engine cleaning fluids and solvents (Ref. 2, p. 4-23). Also, in the 1950's some radioactive waste was disposed in a 100' sq. vault and also into a six inch well, 14' deep (Ref. 2, p. 4-26).

HRS value = 3

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated: The waste pits were used from 1966 until the mid 1970's. The three pits were of earthen construction and were unlined. Landfill #3 operated from 1957 to 1972. The method of disposal of material was trench and fill. No liner is known to exist (Ref. 2, p. 4-21 to 4-23).

Method with highest score: It is assumed that there is no liner that exists at the landfill and it is documented that no liner existed at the waste pits.

HRS value = 3

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated: Contaminants that were identified during the site characterization investigation done by Radian Corp. are: lead, chromium, mercury, bromodichloromethane, trichloroethylene, dibromochloromethane, bromoform, and tetrachloroethylene (Ref. 3, p. 4-19, 4-20, 4-23, 4-38).

Compound with highest score: Lead, chromium, and mercury have a toxicity/persistence matrix score of 18 (Ref. 1).

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum): Landfill (minimum waste quantity used for calculations):

52 weeks/yr x 1 drum/wk x 5 yrs. = 260 drums.

FPTA 31: 4 burns/day x 400 gal/day x 2 days/weekend x 52 weekends/yr x 10 years x 1 drum/50 gal = 33280 drums.

FPTA #3: 300 gal/burn x 4 burns/yr x 25 yrs x 1 drum/50 gal = 600 drums.

Total: 260 drums + 33280 drums + 600 drums = 34,140 drums (Ref. 1; Ref. 2, p. 4-14, 4-14, and 4-23).

HRS value = 8

Basis of estimating and/or computing waste quantity: Quantities of waste disposed of in the landfill #3 were estimated at one to seven drums per week during a 5 year period (1965-1970). At the fire protection training area No. 1 there were 400-500 gallons of material burned each weekend for 10 years. At the fire protection training area No.3 there were 300 gallons burned quarterly for 25 years (Ref. 2, p. 4-13, 4-14, 4-23).

5. TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility: No water supply wells have been identified within three miles of the base. Also, the shallow aquifer present on base is not known to be hydraulically connected to an aquifer providing potable water supplies (Ref. 2, p. 3-17, 3-19, 3-25, 3-26, 3-28).

HRS value = 0

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

N/A, see above (Ref. 2, 3-28).

Distance to above well or building:

N/A, see above

HRS value = 0

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each

0 (Ref. 2, 3-28).

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

0 (Ref. 2, 3-28).

Total population served by ground water within a 3-mile radius:

0 (Ref. 2, 3-28).

HRS value = 0

HRS matrix value = 0

SURFACE WATER ROUTE

1. OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

None

Rationale for attributing the contaminants to the facility:

N/A

HRS value = 0

2. ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

$$\% \text{ slope} = \frac{\text{rise}}{\text{run}} \times 100\% = \frac{35 \text{ ft.}}{4700} \times 100\% = 0.74\%$$

Slope measured south to north through landfill (Ref. 1; Ref. 4).
HRS value = 0

Name/description of nearest downslope surface water: Drainage in the SE portion of the base near the FPTA No. 1 enters an intermittent stream that flows into the north side canal (Ref. 3, p. 2-4, 2-7; Ref. 4).

Average slope of terrain between facility and above-cited surface water body in percent:

$$\% \text{ slope} = \frac{\text{rise}}{\text{run}} \times 100\% = \frac{35 \text{ ft.}}{6500 \text{ ft.}} \times 100\% = 0.53\%$$

Slope measured north to south near FPTA No. 1 area (Ref. 1; Ref. 4)

HRS value = 0

Is the facility located either totally or partially in surface water?

No (Ref. 4).

Is the facility completely surrounded by areas of higher elevation?

No (Ref. 3, p. 2-1 and 2-4).

HRS value = 0

1-Year 24-Hour Rainfall in Inches

2.8" (Ref. 2, p. 2).

HRS value = 2

Distance to Nearest Downslope Surface Water

It is approximately 6500 ft. south to southeast from the FTPA# 1 area to north side canal (Ref. 4).

HRS value = 2

Physical State of Waste

General refuse, waste treatment sludge, and industrial waste oils were disposed at landfill #3 (Ref. 2 p. 4-21). The waste pits contained waste from engine cleaning fluids and solvents (Ref. 2, p. 4-23). Also, in the 1950's some radioactive waste was disposed in a 100' sq. vault and also into a six inch well, 14' deep (Ref. 2, p. 4-26).

HRS value = 3

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated: FTPA-1 and FTPA-2 were used to burn contaminated oils, fuels, and waste solvents during times of operations. No drainage collection system is known to have existed (Ref. 2, p. 4-11 and 4-13). Wastes were disposed into landfill No. 3 by the trench and fill method. The landfill trenches were covered. No information was found regarding surface diversion systems (Ref. 2, p. 4-22 and 4-23).

Method with highest score: FTPA-1 and FTPA-2 - waste piles: piles not covered, wastes unconsolidated, and no diversion or containment, or diversion system leaking or in danger of collapse (Ref. 1, p. 35).

HRS value = 3

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated: Contaminants that were identified during the site characterization investigation done by Radian Corp. are: lead, chromium, mercury, bromodichloromethane, trichloroethylene, dibromochloromethane, bromoform, and tetrachloroethylene (Ref. 3, p. 4-19, 4-20, 4-23, 4-38).

Compound with highest score: Lead, chromium, and mercury have a toxicity/persistence matrix score of 18 (Ref. 1).

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum): Landfill (minimum waste quantity used for calculations): 52 weeks/yr x 1 drum/wk x 5 yrs. = 260 drums.

FPTA 31: 4 burns/day x 400 gal/day x 2 days/weekend x 52 weekends/yr x 10 years x 1 drum/50 gal = 33280 drums.

FPTA #3: 300 gal/burn x 4 burns/yr x 25 yrs x 1 drum/50 gal = 600 drums.

Total: 260 drums + 33280 drums + 600 drums = 34,140 drums (Ref. 1; Ref. 2, p. 4-14, 4-14, and 4-23).

HRS value = 8

Basis of estimating and/or computing waste quantity: Quantities of waste disposed of in the landfill #3 were estimated at one to seven drums per week during a 5 year period (1965-1970). At the fire protection training area No. 1 there were 400-500 gallons of material burned each weekend for 10 years. At the fire protection training area No.3 there were 300 gallons burned quarterly for 25 years (Ref. 2, p. 4-13, 4-14, 4-23).

5. TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance: Surface water in the immediate vicinity of Sheppard AFB is used for contact recreation, non-contact recreation and propagation of fish and wildlife. Irrigation of crop land is also a major use of the surface water (Ref. 2. p. 3-17). However, locations of these activities is not recorded.

Is there tidal influence?

No (Ref. 4).

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

None (Ref. 4).

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

None (Ref. 4).

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less: There are no federally or state listed endangered or threatened species which inhabit the base (Ref. 2, p. 3-27).

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

None (Ref. 2, p. 3-17).

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

N/A

Distance to above-cited intakes, measured in stream miles.

N/A

HRS value= 0

AIR ROUTE

(omit)

1. OBSERVED RELEASE

Contaminants detected:

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

3. TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

(omit)

1. CONTAINMENT

Hazardous substances present:

Type of containment, if applicable:

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

Ignitability

Compound used:

Reactivity

Most reactive compound:

Incompatibility

Most incompatible pair of compounds:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Basis of estimating and/or computing waste quantity:

3 TARGETS

Distance to Nearest Population

Distance to Nearest Building

Distance to Sensitive Environment

Distance to wetlands:

Distance to critical habitat:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within view of the site?

Population Within 2-Mile Radius

Buildings Within 2-Mile Radius

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

2. ACCESSIBILITY

Describe type of barrier(s):

3. CONTAINMENT

Type of containment, if applicable:

4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Compound with highest score:

5. TARGETS

Population within one-mile radius

Distance to critical habitat (of endangered species)

Facility Name: ~~Sheppard Air Force Base (TX3571524161)~~

Location: Wichita Falls, Texas

EPA Region: VI

Person(s) In Charge of the Facility: United States Air Force

HQ ATC/DEV Randolph AFB, Texas

AFESC/DEV Tyndall AFB, Florida

Name of Reviewer: Larry Landry

Date: July 29, 1987

General Description of the facility:

(For example landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Sheppard Air Force Base in Wichita Falls, Texas contains one former landfill- including hardfill (1957-1972), waste pits (1966-early 1970's) and two fire protection training areas-No. 3 (1957-present) No. 1 (1941-1957; see topo map). They received waste treatment sludge; industrial waste oils, general refuse, waste engine cleaning fluids, solvents, radioactive waste, construction waste and burning of fuel. Ground water at the base is shallow (less than 10 ft.- 32 ft.) and not known to be hydraulically connected to an aquifer providing potable water supplies. The data provided from the monitoring wells illustrates an observed release to the alluvium and terrace deposits which is considered the aquifer of concern. The surface water route is the contamination route of major concern.

Scores: $S_M = 3.79$ ($S_{gw} = 0$ $S_{sw} = 6.55$ $S_a = 0$)

$S_{FE} =$

$S_{DC} =$

FIGURE 1
HRS COVER SHEET

J. Stewart for F. Vachalen

Ground Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. Section)
[1] Observed Release	0 45	1	45	45	3.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2	6	6	
Net Precipitation	0 1 2 3	1	0	3	
Permeability of the Unsaturated Zone	0 1 2 3	1	1	3	
Physical State	0 1 2 3	1	3	3	
Total Route Characteristics Score			10	15	
[3] Containment	0 1 2 3	1	3	3	3.3
[4] Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	8	8	
Total Waste Characteristics Score			26	26	
[5] Targets					3.5
Ground Water Use	0 1 2 3	3	0	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			0	49	
[6] If line [1] is 45, multiply [1] x [4] x [5] If line [1] is 0, multiply [2] x [3] x [4] x [5]			0	57,330	
[7] Divide line [6] by 57,330 and multiply by 100 $S_{gw} = 0$					

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Sheet						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. Section)	
[1] Observed Release	① 45	1	0	45	4.1	
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].						
[2] Route Characteristics					4.2	
Facility Slope and Intervening Terrain	① 1 2 3	1	0	3		
1-yr. 24-hr. Rainfall	0 1 ② 3	1	2	3		
Distance to Nearest Surface Water	0 1 ② 3	2	4	6		
Physical State	0 1 2 ③	1	3	3		
Total Route Characteristics Score			9	15		
[3] Containment	0 1 2 ③	1	3	3	4.3	
[4] Waste Characteristics					4.4	
Toxicity/Persistence	0 3 6 9 12 15 ①⑧	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 ⑧	1	8	8		
Total Waste Characteristics Score			26	26		
[5] Targets					4.5	
Surface Water Use	0 1 ② 3	3	6	9		
Distance to a Sensitive Environment	① 1 2 3	2	0	6		
Population Served/Distance to Water Intake Downstream	① 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40		
Total Targets Score			6	55		
[6] If line [1] is 45, multiply [1] x [4] x [5] If line [1] is 0, multiply [2] x [3] x [4] x [5]			4212	64,350		
[7] Divide line [6] by 64,350 and multiply by 100 $S_{sw} = 6.55$						

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet omit					
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1		45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the $S_a = 0$, Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Route Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100 $S_a =$					

FIGURE 9
AIR ROUTE WORK SHEET

	s	s ²
Groundwater Route Score (S _{gw})	0	0
Surface Water Route Score (S _{sw})	6.55	42.90
Air Route Score (S _a)		
$S_{gw}^2 + S_{sw}^2 + S_a^2$		42.90
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		6.55
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		3.79

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet

Enit

Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. Section)
[1] Containment	1 3	1		3	7.1
[2] Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
[3] Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
[4] Multiply [1] x [2] x [3]				1,440	
[5] Divide line [4] by 1440 and multiply by 100 $S_{FE} =$					

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet

(omit)

Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. Section)
[1] Observed Incident	0 45	1		45	8.1
If line [1] is 45, proceed to line [4] If line [1] is 0, proceed to line [2]					
[2] Accessibility	0 1 2 3	1		3	8.2
[3] Containment	0 15	1		15	8.3
[4] Waste Characteristics Toxicity	0 1 2 3	5		15	8.4
[5] Targets					8.5
Population Within a 1-mile radius	0 1 2 3 4 5	4		20	
Distance to a Critical Habitat	0 1 2 3	4		12	
Total Targets Score				32	
[6] If line [1] is 45, multiply [1] x [4] x [5] If line [1] is 0, multiply [2] x [3] x [4] x [5]				21,600	
[7] Divide line [6] by 21,600 and multiply by 100 $S_{DC} =$					

FIGURE 12
DIRECT CONTACT WORK SHEET

SITE NAME Sheppard Air Force Base

CITY Wichita Falls STATE TX

IDENTIFICATION NUMBER TX3571524I6I

[illegible]

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual (HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984

RECEIVED
SUPERFUND

MAR 27 1992

RECORDS
CENTER